Summary of July 10th, 2012 meeting of the Science and TEK subcommittee of the NPLCC
July 16, 2012

The Science and Traditional Ecological Knowledge subcommittee (S-TEK) of the NPLCC held a meeting by conference call and WebEx on July 10th, 2012, from 1:30 pm to 4:30 pm PDT. Thirteen subcommittee members participated and are listed in Appendix A.

The main topics for the call were:

- Review the results of the scoring of driver-resource pairs & agree on topics to be evaluated in greater depth
- Develop process and schedule for detailed evaluation of potential information and support needs

This document briefly summarizes the meeting discussions and describes action items to be addressed between now and the next scheduled meeting on August 10th.

Update and review of FY12 activities since June 13-14 meeting

Frank Shipley (Chair) opened the meeting with introductions, and Mary Mahaffy (Science Coordinator) provided a quick review of FY12 activities (See Table 1).

Table 1. Recent activities for FY12 S-TEK focus areas

FY12 focus	Summary of activities and recommendations
Traditional Ecological Knowledge and Tribal/First Nations Priorities	Contracts completed for all selected projects (7 total).
Priorities and Literature Synthesis for Terrestrial Habitats	Synthesis of workshops is underway, with report expected to the S-TEK by the end of July.
GIS Data Layer Inventory / Mapping	Inventory and gap analysis underway. Additional funding provided to ACRC/Univ. of Alaska SE to expand on effort started by Alaska Audubon on cross border land cover data sets. Monthly calls are ongoing
Data Management Platform	Interagency agreement completed with the USGS to provide technical support for adoption of LC-MAP; funding provided to EcoAdapt to conduct focus groups to improve understanding of end-user needs from the system.
Science and Information Sharing Workshops / Symposiums	Agreements in process to provide funding for the identified conferences: 1) Third Annual Cross-Boundary Data Integration Workshop, hosted by B.C. Province and Simon Fraser University, Vancouver (Winter/Spring 2013) 2) WildLinks and Cascadia Forum (both international and co-sponsored by the GNLCC) being led by Conservation Northwest, and 3) Science/Management workshop in Portland and Victoria led by NWF.

Karen Jenni (Insight Decisions; facilitator) provided a brief review of the conclusions and key challenges identified during the June meeting.

Review of "Impact Matrix" scoring

Frank Shipley reviewed the results of the "Impact Matrix" scoring exercise that S-TEK members used as a means to sort through the very large number of potential information and support needs that NPLCC partners have. The goal of this scoring was to conduct an initial "screening" of topics and identify a short list of potential priorities which would be evaluated in more detail. Slides used during the discussion are provided in a separate file (Impact Matrix Results_S-TEK_7-10-12.pdf).

There was a general agreement that the process was useful as were the results. There was significantly more agreement among the 20 responses than most people had anticipated, and that increased their confidence in the list. A few concerns were raised: (a) potential for geographic differences in priorities should be explored; concern that there was no participation from BC in the exercise, (b) resources that received a relatively high number of total votes but for which those vote were distributed across a large number of drivers might not be appropriately "valued" by this process, and (c) several participants raised specific topics which they felt should be ranked higher (i.e., glacial mass balance and forage fish). After discussion, participants agreed:

1. To take the "top" 22 driver – resource pairs and evaluate them further as potential Priorities for the S-TEK Strategy (see Appendix B for a sorted list of topics)
2. That there should be an opportunity to supplement this list in August

Evaluation of potential topics – testing the criteria

During the June meeting, S-TEK members identified a set of criteria that should be used to evaluate the relative importance of addressing a topic within the 2013-2017 S-TEK strategy:

- Value of information to decisions
- Partnerships
- Criticality of LCC-level participation (e.g., is not currently be addressed by anyone else)
- Timing of need / opportunity for information or support development

The also identified a set of attributes of a topic that might be relevant for designing an effective portfolio of activities for the strategy:

- Geographic relevance of the needs
- Geographic scale of the issue
- Relevance to different ecosystems
- Relevance to various outcomes of interest to management
- Type of information and support that is needed
- Focus on understanding the extent of a problem versus focus on understanding the availability and effectiveness of management and adaptation solutions

During the call, participants went through an example evaluation of three resource-driver pairs to test the criteria and the proposed metrics. Several areas were identified where clarification and modification were necessary, and those have been implemented in the instructions for the next steps, which will be distributed separately.

Next steps – S-TEK evaluation of potential topics

Following the discussion and testing of evaluation criteria, the S-TEK agreed on the following next steps

- Mary to distribute the list of topics to be evaluated in detail and ask for volunteers **(done 7/12/12)**
- Frank, Mary, and Karen to create and distribute the following **(Distributed separately from these notes, 7/17/12)**
    - Instructions and a scoring spreadsheet for evaluating the potential needs
    - Assignments for each S-TEK member – list and description of the topics they should be evaluating
- Individual S-TEK members to complete their evaluations and return their spreadsheet to Mary and Karen **(Due by 8/3/12)**
- Summary of responses prepared for discussion on **8/10/12.**

Upcoming meetings

There are two more meetings of the S-TEK scheduled. During the August call we will discuss whether an early September call should be added to the schedule.

- Aug 10th, 9:00 am – noon PDT. WebEx & conference call
    - Review evaluation results
    - Discuss Strategy outline
    - Discuss annual implementation plans and their relationship to the Strategy
- Sept 25th, 9:00 am – noon, PDT. WebEx & conference call

Appendix A. S/TEK subcommittee membership and attendance at meeting July 10, 2012

Name	Agency
Frank Shipley (Chair)	USGS
Lyman Thorsteinson	USGS
Andrea Woodward	USGS
Keith Hatch	BIA
Chris Lauver	NPS
Peter Kiffney	NOAA
John Laurence	USFS
Frank Lake	USFS
Karyn Gear	CA Coastal Conservancy
Mike Goldstein	FWS
Kelly Nesvacil	Alaska DFG
Raymond Paddock	Central Council, Tlingit & Haida Tribes of Alaska
Judy Gordon	US FWS
Additional participants	
John Mankowski	NPLCC Coordinator
Mary Mahaffy	NPLCC Science coordinator
Karen Jenni	Insight Decisions, LLC
Tim Nieman	Decision Applications, Inc

Appendix B. Top 22 topics identified through the impact matrix scoring

The tables below show the top 22 topics identified as potential priorities for the S-TEK strategy. Following the impact matrix process, each topic is defined by a combination of a resource of interest and a climate-related driver affecting that resource. To facilitate the next step, NPLCC staff grouped the topics as shown below and included the definitions of the driver and resource.

<table>
<tr><th>Driver-resource pair(s)</th><th>Definitions</th></tr>
<tr><td>Group 1
Sea Level - Marine Shoreline
Storms - Marine Shoreline
Sea Level - Estuaries
Sea Level - Marine Nearshore
Ocean Condition - Shellfish/Invertebrates
Sea Level - Sites</td><td>
<table>
<tr><td>Sea Level</td><td>Increases, decreases, rates, geographic variability</td></tr>
<tr><td>Storms</td><td>Coastal storm dynamics--frequency, intensity, duration, wave height, wind speed, seasonal timing, tidal interactions, extreme events</td></tr>
<tr><td>Ocean Condition</td><td>Relative gas concentrations, change rate and direction</td></tr>
</table>
<table>
<tr><td>Marine Shoreline</td><td>Shoreline above mean high tide: beach, coastal marsh/wetlands, terrestrial near-shore</td></tr>
<tr><td>Marine Nearshore</td><td>Intertidal, kelp/seagrass habitats, benthic and pelagic habitats, all substrates</td></tr>
<tr><td>Estuaries</td><td>Bays and deltas with salinity gradients, benthic and pelagic habitats, temperature and geomorphic changes, salinity gradient changes</td></tr>
<tr><td>Shellfish/ Invertebrates</td><td>Nearshore marine/estuarine species: reproduction, mortality, population size, genetic integrity, range/distribution, habitat use, trust species, listed species</td></tr>
<tr><td>Sites</td><td>Archeological, cultural and historically significant sites</td></tr>
</table>
</td></tr>
<tr><td>Group 2
Fire Regime - Forest
Precipitation - Forest
Invasives, Disease, Pests - Forest
Air temperature - Forest</td><td>
<table>
<tr><td>Air temperature</td><td>Mean and seasonal atmospheric temperature, trends, geographic variability</td></tr>
<tr><td>Precipitation</td><td>Timing and amount of rain, snow, fog, snowpack</td></tr>
<tr><td>Invasives, Disease, Pests</td><td>Invasive species introductions and expansions, new pathogens and expansion of native pathogens and species</td></tr>
<tr><td>Fire Regime</td><td>Frequency, severity, geographic distribution of fires, occurrence of extreme events</td></tr>
</table>
<table>
<tr><td>Forest</td><td>Coastal, inland, montane, health, productivity, age structure, composition, distribution, fuels</td></tr>
</table>
</td></tr>
</table>

Driver-resource pair(s)	Definitions
Group 3 Hydrologic Regime - Anadromous Fish Fresh Water Quality - Anadromous Fish	Hydrologic Regime: Instream river and stream flow changes, seasonality, rain vs snow effects Fresh Water Quality: Temperature, seasonal and geographic variation, glacial and runoff-driven turbidity, changing constituent concentrations Anadromous Fish: Salmonids, lampreys: reproduction, mortality, population size, genetic integrity, range/distribution, habitat use, trust species, listed species
Group 4 Hydrologic Regime - Riparian Floods/Droughts - Riparian Floods/Droughts - River/Stream Hydrologic Regime - Groundwater	Hydrologic Regime: Instream river and stream flow changes, seasonality, rain vs snow effects Floods/Droughts: Frequency, severity, geographic variation, trends Riparian: River, stream corridors, floodplains River/Stream: Ecological flow, temperature regime, constituent concentrations, runoff driven changes, groundwater driven changes Groundwater: Aquifers, recharge rates and trends, salt water intrusion, surface water connectivity including seeps, springs, and stream/river base flow
Group 5 Hydrologic Regime - River/Stream Precipitation - River/Stream Air temperature - River/Stream Fresh Water Quality - River/Stream	Hydrologic Regime: Instream river and stream flow changes, seasonality, rain vs snow effects Air temperature: Mean and seasonal atmospheric temperature, trends, geographic variability Precipitation: Timing and amount of rain, snow, fog, snowpack Fresh Water Quality: Temperature, seasonal and geographic variation, glacial and runoff-driven turbidity, changing constituent concentrations River/Stream: Ecological flow, temperature regime, constituent concentrations, runoff driven changes, groundwater driven changes
Group 6 Invasives, Disease, Pests - Biological Communities Air temperature - Biological Communities	Invasives, Disease, Pests: Invasive species introductions and expansions, new pathogens and expansion of native pathogens and species Air temperature: Mean and seasonal atmospheric temperature, trends, geographic variability Biological Communities: Species composition and interactions: degree of co-evolution, predation, competition, biodiversity, mutualism, veg cover alterations